

DURIRON

ACID-PROOF

EQUIPMENT



THE DURIRON COMPANY, Inc.

DAYTON • • • OHIO • • • U. S. A.

The DURIRON COMPANY, Inc.

General Offices and Plant: DAYTON OHIO

FACTORY BRANCH OFFICES

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 BUFFALO, N. Y., THE DURIRON Co., INC., Jackson Building
 CHICAGO, ILL., THE DURIRON Co., INC., 310 So. Michigan Avenue
 DETROIT, MICH., THE DURIRON Co., INC., General Motors Building
 NEW YORK, N. Y., THE DURIRON Co., INC., 22 East 40th Street
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 PITTSBURGH, PA., THE DURIRON Co., INC., Empire Building
 ST. LOUIS, MO., THE DURIRON Co., INC., Arcade Building, 8th and Olive

DIRECT SALES REPRESENTATIVES

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 BIRMINGHAM, ALA., J. W. ESHELMAN, Martin Building
 CLEVELAND, OHIO, R. L. HANSCHKE, 2029 Morrison, Lakewood
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 HOUSTON, TEX., AYRES ENG. Co., Petroleum Building
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 LOS ANGELES, CALIF., G. R. OSTER, Hollingsworth Building

MIAMI, FLA., F. C. JACK, 206 N. E. 14th Street
 MINNEAPOLIS, MINN., F. S. GOULDTHRITE, 923 Nicollet Avenue
 NEW ORLEANS, LA., W. H. GRANT, 824 Carondelet Street
 OKLAHOMA CITY, OKLA., L. A. WHEATON, P. O. Box 411
 RICHMOND, VA., M. R. MILLS, JR., 201 E. Franklin Street
 ROCK HILL, S. C., WM. H. SHEPARD, 1034 Park Avenue
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 SAN FRANCISCO, CALIF., D. E. JACK, 244 9th Street
 TACOMA, WASH., R. E. CHASE & Co., Tacoma Bldg.
 TULSA, OKLA., EDWARD SOPH, Alexander Building

WASHINGTON, D. C., R. H. STACY, 1673 Columbia Road

SAN JUAN, PORTO RICO, CARLOS R. ROSSI, Calle Tetuan No. 5

The services of The Duriron Company, specialists for 25 years in the handling of corrosive liquids and fumes, are oftentimes of great assistance to architects when they have corrosion problems. These services are freely offered and we shall be glad to make suggestions on any project involving the use or disposal of corrosive liquids.

PRODUCTS

Duriron Acid-Proof equipment is available for the chemical laboratories of schools, colleges, hospitals and similar institutions as follows:

Drain Pipe and Fittings	Floor Drains (double drainage type)
Exhaust Fans	Traps, regular and special designs for laboratory use
Sinks—hemispherical and flat rim	Kettles, jacketed, for glassware cleaning solutions
Sink Strainers for Duriron, Alberene, stone-ware and other acid-resisting sinks	Kjeldahl Digestion Units (no hood required)
Overflows	

Durimet corrosion-resisting alloy steel sheet is available for fabricating fume ducts.

A wide variety of centrifugal pumps, both plain and self-priming, valves, flanged pipe and fittings and other equipment is available for sewage disposal plants, filtration plants, acid sumps and similar uses.

All equipment made by the Duriron Company is for the express purpose of handling corrosive liquids and fumes.

27
15**ADVANTAGES OF DURIRON**

Duriron Acid-Proof Drain Pipe and Fittings are installed as easily and the same as extra heavy cast iron soil pipe. The working dimensions are the same and the work is familiar to plumbers.

Duriron pipe joints, properly calked, stay tight.

No protective coating is required inside or outside, nor is it necessary to encase the pipe in concrete. Lines may be concealed within the walls or ceiling without fear of leakage or discoloration.

Duriron Drain Pipe does not warp or sag from heat. Duriron joints will not loosen under ordinary building vibration.

Duriron is not scoured by sharp solids, such as broken glassware, nor by sediment.

Duriron is not affected by mercury.

Solids do not cling to the walls of Duriron pipe.

Duriron pipe that has been in service can be used again if care is taken in making the removal.

THE INSTALLATION OF DURIRON

The labor cost of installing Duriron Acid-Proof Drain Pipe is the same as that of extra heavy cast iron soil pipe. The installation is identical except for the bell packing. Asbestos packing is used instead of hemp or oakum, which are not acid resistant. A support or hanger for each length of pipe is generally used, with a hanger provided for each bend.

The cost of using Duriron Pipe is about equal to that of less resistant material after one replacement. Where the walls or ceiling have had to be torn out to make the replacement, the cost of Duriron is

less. In most instances, before replacement is made, there are numerous repair jobs. The cost of repairs added to the first cost, makes it cheaper to use Duriron Acid-Proof Drain Pipe and Fittings in the first place.

The freedom from repairs and replacements . . . the protection of walls and ceilings from the mars of repair work . . . the satisfaction to the architect and the owner in knowing that nothing better could be used, are the *Plus* values delivered with each Duriron Acid-Proof Drain Pipe installation.

PHYSICAL TESTS

The Testing Laboratories of Columbia University some years ago made an exhaustive series of tests, both chemical and physical, on vitrified tile, lead and

Duriron pipe. Chemical tests show Duriron beyond comparison in universal acid resistance. Physical tests are summarized below:

COMPARATIVE PHYSICAL PROPERTIES DURIRON, LEAD AND VITRIFIED TILE PIPE

From Tests made by Testing Laboratories of Columbia University

	Vitrified Pipe	Lead Pipe	Duriron Pipe
Average ultimate crushing load, lbs. per ft.	1556	1492	13490
Average transverse ultimate load, lbs., center load, span 21 in.	1813	400	11250
Modulus of rupture, computed from crushing load, lbs. per sq. in.	1644	*	17200

*Impossible to compute for a plastic material such as lead.

TYPICAL SPECIFICATIONS

(1) **Pipe**—All pipe and fittings carrying acid waste from to shall be of Duriron as manufactured by THE DURIRON COMPANY, INC., Dayton, Ohio, of the sizes shown on drawings

(2) All such pipe and fittings shall be of bell and spigot type, extra heavy weight and dimensions, and shall fulfill the requirements of the city plumbing code of the City of

(3) **Joints**—All joints in lines carrying acid wastes shall be made by ramming tightly in bottom of bell one ring of pure asbestos wick packing, upon which shall be poured sufficient molten lead to fill the bell completely, the lead being properly caulked in the manner usual with cast iron soil pipe.

(4) **Cleanouts**—Suitable cleanout plugs shall be provided as shown on drawings.

(5) **Expansion Joints**—If lines are to handle wastes of high temperature, expansion joints shall be provided as shown on drawings.

(6) **Alignment**—All pipe lines shall be correctly aligned before joints are made. Proper supports shall be provided; at least one support to each length of pipe in horizontal lines, one at each bend, and supports at intervals no greater than 10 ft. in vertical lines.

(7) **Floor Drains**—Floor drains in shall be of Duriron, double drainage type, Plate No.

(8) **Vents**—Vent lines carrying acid fumes shall be of Duriron as specified for pipe above. (Unless fumes are of extreme strength other materials may be used.)

(9) **Sinks**—All sinks in shall be of Duriron, of the sizes and shapes as shown on detail drawings. Each sink shall bear the name "Duriron" cast thereon. Outlet fittings shall be of Duriron.

(10) **Sink Connections**—All connections from sinks to waste lines, including traps, shall be Duriron as specified.

(11) **Exhaust Fans**—All exhaust fans for exhausting acid fumes from hoods, together with all suction and discharge pipes connected therewith, shall be of Duriron or Durimet. Such fans shall be of the type, size and capacity as shown on drawings.

Important—It is important that the location of floor outlets follow exactly the specifications in laboratory installations.

If this is not done within close limits, the laboratory furniture can not be properly located. Inaccurate location of floor openings by the plumbing contractor offers an excuse to the furniture contractor to substitute an inferior material to offset the extra fitting work made necessary by this deviation.

DURIRON EXHAUST FANS

For the ventilation of laboratory hoods, pickling rooms and in processes involving fumes, the exhaust fan should not be affected by the gases handled. Duriron, being nearly universally acid resistant, is ideal. Duriron Fans are available in a wide range of capacities to take care of almost any condition and with little attention.

All parts coming in contact with the fumes are made of Duriron; no coating or lining is needed. Each fan casing is equipped with proper openings for the drainage of the condensate.

The impellers are mounted directly on the motor shafts, with the motors mounted on rubber cushions. This results in the reducing of vibration to a minimum. The impeller shaft is provided with a stuffing box to prevent the escape of fumes into the motor. All moving parts can be withdrawn without disturbing the duct connections.

When Duriron Fans are to be located in a chemistry laboratory or other location in which utmost quiet is desired, the "quiet operating" motors are recommended, especially with single phase motors.

Adequate exhaust fan equipment is important, and we suggest the selection of somewhat excess capacities, operated at conservative speeds, rather than barely sufficient exhausting capacity at the extreme speeds permissible. This applies also to duct capacities where oversizes are preferable.

Bulletin No. 1101 contains complete data on Duriron Exhaust Fans. A copy will be sent on request.

Flues for acid fumes should be made of vitrified brick and acid cement or of brick lined with vitrified tile. Acid fumes destroy cement mortar used in flues of ordinary brick and mortar construction. Sand lime brick is not satisfactory.



DURIMET DUCTS

Durimet "K," for fume ducts, is a nickel-chromium (stainless) alloy steel resistant to a wide range of corrosive fumes and is the only steel resistant to weak sulphuric acid. It is stronger than mild steel, is ductile, malleable and machinable.

Durimet "K" is extremely satisfactory for ducts for the disposal of corrosive fumes from battery stations, telephone buildings and for chemical laboratories.

In some atmospheres, Durimet "K" becomes discolored although not corroded. For this reason it is best to paint it if exposed to public view.

Durimet "K" sheet for duct work is carried in stock in the gauges and sizes listed here:

U.S.S. Gauge	Size Sheet	Theor. Wt., Lbs. per Sq. Ft.
16	36" x 96"	2.63
20	36" x 96"	1.58
22	36" x 96"	1.32
24	30" x 96"	1.05

Bolts and rivets are available for fabricating.

Durimet "K" is readily fabricated in welded, crimped or riveted construction. The material is so ductile that it does not crack when bent on a radius equal to the thickness of the sheet.

Soldering is difficult and not generally satisfactory. Fusion welding with the oxyacetylene torch is recommended.

Durimet "K" can be welded readily to ordinary steel and can be brazed to bronze or brass. This method of construction can be used where the joint so made will not be in contact with any corrosive elements. It is a satisfactory way to obtain additional stiffness in the duct, or for bracing or support on the outside of the duct.

Structural shapes are not available in Durimet "K". Where small angles are required, such shapes can be formed from strips cut from sheet stock.

It is advisable to install drainage connections from the ducts at proper locations. Such a point would be the junction of a vertical section of the duct with a horizontal. Horizontal ducts should be installed in such a manner that each specific area will be drained at a definite point.



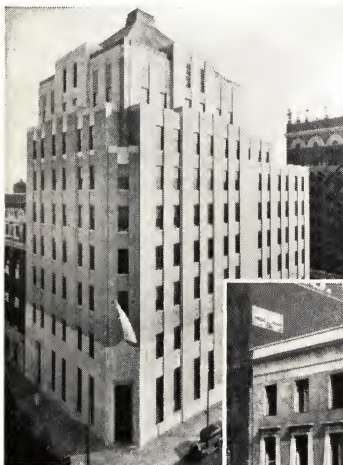


Firestone Tire Store, Inc., Houston, Tex., uses Duriron for battery service room. R. F. Taylor, Mechanical Engineer

The Killian Co., Cedar Rapids, Iowa, use Duriron in restaurant kitchen



Chesapeake & Potomac Telephone Exchange, Richmond, Va., has Duriron in the battery room. Archts.: Voorhees, Gmelin & Walker, New York



Wayne County Morgue, Detroit, Mich., has Duriron in autopsy rooms, laboratory and refrigeration plant. Archt.: Aaron H. Gould & Son, Detroit



Soda Fountain in Western Union Building, Atlanta, Ga., Duriron specified by Western Union engineers

Walgreen Drug Store in Minimax Building, Houston, Tex., Duriron used in pharmacy. Archt.: Jos. Finger, Houston



FOR SCHOOL and • • • • Typical Installations-

Boston University, Boston, Mass.
California Institute of Technology, Pasadena, Calif.
University of Illinois, Urbana, Ill.
Columbia University, New York, N. Y.
University of Missouri, Columbia, Mo.
City-County Hospital, Houston, Texas.
University of Washington, Seattle, Wash.
State Medical & Surgical Building, Cranston, R. I.
Duke University, Durham, N. C.
Yale University, New Haven, Conn.
Beth Israel Hospital, New York, N. Y.

FOR COMMERCIAL and • • • • Typical Installations-

The Palmer House, Chicago, Ill.
Spreckels Sugar Co., Woodland, Calif.
Sewage Disposal Plant, Toledo, Ohio.
U. S. Mint, Denver, Colo.
Atlanta Journal, Atlanta, Ga.
Buick Motor Car Co., Flint, Mich.
Edison Institute, Detroit, Mich.
Mellon Institute, Pittsburgh, Pa.

FOR VARIOUS CONDITIONS • • • • Typical Installations-

Firestone Service Stations, in many places.
Goodyear Service Stations, in many places.
New York Dock Co., Brooklyn, N. Y.
Trico Products Co., Buffalo, N. Y.
U. S. Treasury Dept., New York, N. Y.
U. S. Navy Yard Hangar, Philadelphia, Pa.
U. S. Northeastern Penitentiary, Lewisburg, Pa.
Town Hall Building, Wilkes-Barre, Pa.
Filtration Plant, Bristol, Tenn.
Jeffrey Mfg. Co., Columbus, O.
Walgreen's Drug Stores, in several cities.
Graffenburg Dairy, Utica, N. Y.
Christian Science Publishing House, Boston, Mass.
Lever Bros. Co., Roby, Ind.
Dr. D. C. Speas residence, Winston-Salem, N. C.

• • HOSPITAL LABORATORIES and Applications:

More than three thousand schools and hospitals have Duriron Drain Pipe, some of the installations having been in over 20 years.

Most of these are in laboratories for the disposal of corrosive wastes and fumes. The equipment used includes such items as Acid-Proof Drain Pipe and Fittings, sinks, sink strainers, overflows, Kjeldahl Digestion Units, exhaust fans and similar laboratory equipment.

• • INDUSTRIAL BUILDINGS and Applications:

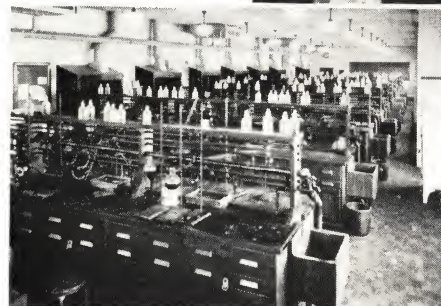
Many of these installations are in conjunction with testing laboratories, engraving plants, for the disposal of commercial acids under low pressure, for kitchen wastes and similar applications.

Other installations include centrifugal pumps, both plain and self-priming, valves and flanged pipe and fittings in sewage disposal plants, filtration and purification plants, acid sumps and similar places.

• • • • • and PLACES and Applications:

There are many and varied uses for Duriron Drain Pipe. For instance: in soda fountains where the carbonated water has a corrosive effect; in battery stations, either sales and service, or those in emergency lighting plants used in hospitals, theaters, telephone buildings; as drains for the acid from photostat equipment, photographic studios; for all roof vents where the sulphur in the atmosphere combines with moisture to form an extremely corrosive liquid; for drains through cinder fills where corrosion attacks the outside of the pipe; in memorial buildings where for esthetic reasons the drains are concealed within the walls or ceiling; in photoengraving plants; in kitchens of restaurants and cafeterias where the food acids, cleaning solutions and scouring powders cause much deterioration of ordinary drain pipe materials; for urinals in public lavatories.

Johns Hopkins University, Baltimore, Md., has Duriron sink strainers, pipe and fittings



Duriron-equipped Organic Laboratory in Science Bldg., Univ. of Ark., Little Rock, Ark. Arch.: Wittenberg & Deloney.

Beth Israel Hospital, New York, has two carloads of Duriron. Archt.: Louis Abramson; Engineer: A. E. Hansen

Life Sciences Building, Univ. of Calif., Berkeley, has Duriron fans, Kjeldahl equipment, drain pipe and fittings. Archt.: George W. Kelland, San Francisco

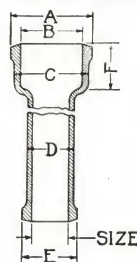


Duriron used in Photostat and engraving departments of New York Life Insurance Bldg., New York. Archt.: Cass Gilbert, New York.



Duriron was used in State Chemist's Dept. in State Capitol Building, Atlanta, Ga.

NOTE: Larger sizes pipe than shown not regularly stocked, but furnished on special order.



DIMENSIONS (IN INCHES) OF DURIRON PIPE

Size	1½	2	3	4	6	8	10	12	15
A	3 13/16	4 5/8	5 5/8	6 5/8	8 1/2	11 1/4	14 1/4	16 3/4	20 1/4
B	2 1/8	3 1/8	4 1/8	5 1/8	7 1/8	9 1/8	12 1/4	14 1/2	17 3/4
C	3 1/8	4 1/8	5 1/8	6 1/8	8 1/8	10 1/8	13 1/4	16	19 3/4
D	2 1/8	3 1/8	4 1/8	5 1/8	7 1/8	9 1/8	12 1/4	14 1/2	17 3/4
E	2 5/8	3 5/8	4 5/8	5 5/8	7 5/8	9 5/8	12 5/4	15 1/4	18 3/4



SINGLE HUB PIPE

Size, in.	Length, ft.	Over all length, ft.-in.	Wt., lb.
1½	3	3-2 3/8	20
2	4	4-2 1/2	32
3	5	5-2 3/4	56
4	5	5-3	86
6	5	5-3	135
8	5	5-3 3/8	217



DOUBLE HUB PIPE

Size, in.	Length, ft.-in.	Over all length, ft.-in.	Wt., lb.
1½	2-9 3/8	3-2 3/8	23
2	3-9 1/2	4-2 1/2	34
3	4-9 1/4	5-2 3/4	61
4	4-9	5-3	88
6	4-9	5-3	142
8	5-0	5-6 3/4	258

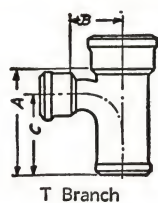


DOUBLE HUBS

Size, in.	Wt., lb.	Dim. A, in.
1½	5 1/2	1
2	6 1/2	1
3	9	1
4	15	1
6	24	1
8	44	2

SANITARY T BRANCHES

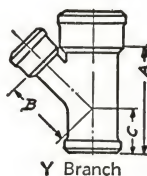
Size, in.	Wt., lb.	Dimensions, in.	Size, in.	Wt., lb.	Dimensions, in.
		A B C			A B C
1½ x 1½	9	8 3/8 3 1/4 6 3/4	4 x 4	22	11 4 1/2 8
2 x 1½	10	8 1/2 3 1/2 6 3/4	6 x 2	35	9 5 1/2 7
2 x 2	11	9 3 1/2 7	6 x 3	39	10 5 1/2 7 1/4
3 x 1½	13	8 1/2 4 6 3/4	4 x 4	11	5 1/2 8
3 x 2	14	9 4 7	6 x 2	52	13 5 1/2 9
3 x 3	17	10 4 7 1/2	8 x 4	65	10 3/8 8
4 x 1½	16	8 1/2 4 1/2 6 3/4	8 x 6	72	14 1/2 6 3/8 10 1/2
4 x 2	18	9 4 1/2 7	8 x 8	87	19 6 3/8 13 1/2
4 x 3	21	10 4 1/2 7 1/2			



T Branch

SANITARY Y BRANCHES

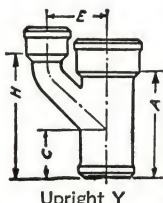
Size, in.	Wt., lb.	Dimensions, in.	Size, in.	Wt., lb.	Dimensions, in.
		A B C			A B C
1½ x 1½	9	8 3/8 3 1/4 4 3/8	4 x 4	25	12 6 3/4 5 1/4
2 x 1½	10	8 1/2 3 1/2 4 3/8	6 x 2	35	9 7 1/8 2 3/4
2 x 2	11	9 4 1/4 4 3/8	6 x 3	39	10 1/2 7 5/8 3 1/4
3 x 1½	13	8 1/2 5 3/8	6 x 4	44	12 8 1/4 4 1/4
3 x 2	14	9 5 4 1/4	6 x 6	52	15 9 1/4 5 1/4
3 x 3	17	10 1/2 5 1/2 5	8 x 4	71	13 1/2 10 4 1/2
4 x 1½	16	8 1/2 5 1/2 3 3/8	8 x 6	87	16 1/2 11 6 3/8
4 x 2	18	9 5 3 3/8	8 x 8	122	19 1/2 12 1/4 7 1/4
4 x 3	21	10 1/2 6 1/4 4 1/2			



Y Branch

SANITARY UPRIGHT Y BRANCH OR H FITTING

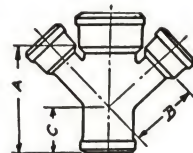
Size, in.	Wt., lb.	Dimensions, in.	Size, in.	Wt., lb.	Dimensions, in.
		A C E H			A C E H
1½ x 1½	9	8 3/8 4 3/8 4 10	4 x 2	19	9 3 1/8 5 1/2 11
2 x 1½	10	8 1/2 4 3/8 4 10 1/4	4 x 3	22	10 1/2 4 1/2 6 12 1/2
2 x 2	11	9 4 3/8 4 1/2 11	4 x 4	28	12 5 1/4 6 14
3 x 1½	14	8 3/8 3 3/8 4 10 1/4	6 x 2	36	9 2 1/2 6 11 1/2
3 x 2	15	9 4 3/8 5 11	6 x 3	41	10 3 1/2 7 12 1/2
3 x 3	19	10 1/2 5 5 1/2 12 1/2	6 x 4	46	12 4 1/4 8 14
4 x 1½	18	9 3/8 5 1/2 10 3/4	6 x 6	56	15 5 1/4 8 1/2 16 3/8



Upright Y

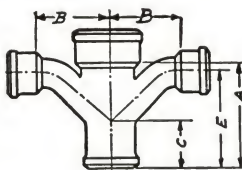
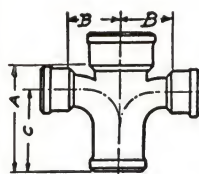
DOUBLE BRANCH SANITARY Y

Size, in.	Wt., lb.	Dimensions, in.	Size, in.	Wt., lb.	Dimensions, in.
		A B C			A B C
1½ x 1½	11	8 3/8 3 3/4 4 3/8	4 x 2	21	9 5 3/4 3 3/4
2 x 1½	13	8 1/2 4 3/8 4 3/8	4 x 3	27	10 1/2 6 1/4 4 1/2
2 x 2	15	9 4 1/4 4 3/8	4 x 4	33	12 6 3/4 5 1/4
3 x 1½	13	8 3/8 5 3/8	6 x 2	42	9 7 1/8 2 3/4
3 x 2	15	9 5 4 1/4	6 x 3	51	10 1/2 7 5/8 3 1/4
3 x 3	21	10 1/2 5 1/2 5	6 x 4	55	12 8 1/8 4 1/4
4 x 1½	20	9 1/2 5 1/2 4 3/8	6 x 6	60	15 9 1/4 5 1/4



DOUBLE BRANCH SANITARY T

Size, in.	Wt., lb.	Dim., in.	Size, in.	Wt., lb.	Dim., in.
		A B + C			A B + C
1½ x 1½	11	8 3/8 6 1/2 6 3/4	4 x 2	20	9 9 7 1/2
2 x 1½	12	8 1/2 7 6 3/4	4 x 3	26	10 9 7 3/4
2 x 2	14	9 7 7	4 x 4	33	11 9 8
3 x 1½	18	8 1/2 8 6 3/4	6 x 2	42	9 11 7
3 x 2	20	9 8 7	6 x 3	50	10 11 7 1/2
3 x 3	21	10 8 7 1/2	6 x 4	54	11 11 8
4 x 1½	19	8 1/2 9 6 3/4	6 x 6	65	13 11 9

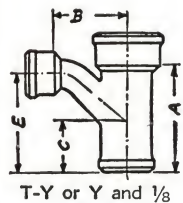


DOUBLE BRANCH COMBINATION Y AND 1/8 BEND

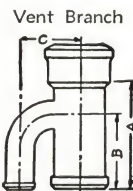
Size, in.	Wt., lb.	Dimensions, in.	Size, in.	Wt., lb.	Dimensions, in.
		A B + C E			A B + C E
1½ x 1½	14	8 3/8 9 1/4 4 3/8 7 3/8	4 x 2	26	9 12 1/2 3 1/8 8 3/8
2 x 1½	15	8 1/2 9 1/4 4 3/8 7 3/8	4 x 3	30	10 1/2 14 4 1/2 9 3/8
2 x 2	18	9 10 1/2 4 3/8 8 1/4	4 x 4	45	12 15 1/2 5 1/4 10 3/8
3 x 1½	21	8 1/2 10 1/4 3 3/8 7 3/8	6 x 2	44	9 14 1/2 2 1/8 8 3/8
3 x 2	22	9 11 1/2 4 3/8 8 3/8	6 x 3	53	10 1/2 16 3 1/2 9 3/8
3 x 3	29	10 1/2 13 5 9 1/8	6 x 4	57	12 17 1/2 4 1/4 10 3/8
4 x 1½	24	9 1/2 11 3/4 3 3/8 8 1/8	6 x 6	71	15 20 1/2 5 3/4 13 1/8

SANITARY T-Y OR COMBINATION Y AND 1/8 BEND

Size, in.	Wt., lb.	Dimensions, in.	Size, in.	Wt., lb.	Dimensions, in.
		A B C E			A B C E
1½ x 1½	9	8 3/8 4 3/8 4 3/8 7 3/8	4 x 2	19	9 6 1/4 3 1/8 8 3/8
2 x 1½	11	8 1/2 4 3/8 4 3/8 7 3/8	4 x 3	22	10 1/2 7 4 1/2 9 3/8
2 x 2	12	9 5 4 3/8 4 3/8 8 1/4	4 x 4	28	12 7 5 1/4 10 3/8
3 x 1½	14	8 3/8 5 1/2 3 3/8 7 3/8	6 x 2	26	9 7 1/4 2 1/8 8 3/8
3 x 2	15	9 5 1/2 4 3/8 8 3/8	6 x 3	34	10 1/2 8 3 1/2 9 3/8
3 x 3	19	10 1/2 6 1/2 5 9 3/8	6 x 4	36	12 8 3/4 4 1/4 10 3/8
4 x 1½	18	9 3/8 5 1/2 3 3/8 8 3/8	6 x 6	47	15 10 1/4 5 3/4 13 1/8



T-Y or Y and 1/8



Vent Branch

VENT BRANCHES

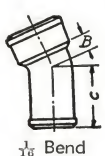
Size, in.	Wt., lb.	Dim., in.	Size, in.	Wt., lb.	Dim., in.
		A B C			A B C
2 x 2	11	9 7 4 1/2	Size, in.	Wt., lb.	Dim., in.
3 x 2	14	10 7 5	2	6	3 1/4 6 3/4
3 x 3	18	11 7 1/2	3	7	3 1/2 7
4 x 2	18	11 7 5 1/2	4	12	4 7 1/2
4 x 3	20	11 7 1/2	6	2	5 8
4 x 4	26	11 8 6 1/2	3	3	5 1/4
6 x 3	32	13 7 1/2	4	4	8 3/4
6 x 4	33	13 8	6	6	14
6 x 6	43	13 9 8 1/2			

SCREWED CLEANOUT PLUGS

* Bolted type.

SIXTEENTH BENDS

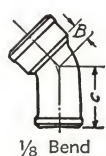
Size, in.	Wt., lb.	Dim., in.
		B C
1½	4 1/2	1 4 1/2
2	6	1 1/2 4 3/4
3	9	1 3/4 4 1/2
4	12	1 3/4 4 3/8
6	17	1 1/2 5
8	44	2 7 1/2



1/16 Bend

EIGHTH BENDS

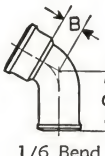
Size, in.	Wt., lb.	Dim., in.
		B C
1½	5	1 5/8 5 1/8
2	6	1 3/4 5 1/4
3	9	2 5 5 1/2
4	13	2 1/2 5 1/2
6	25	2 1/2 6 1/2
8	50	3 1/2 8 1/2



1/8 Bend

SIXTH BENDS

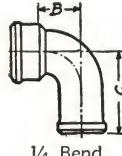
Size, in.	Wt., lb.	Dim., in.
		B C
1½	5 1/2	2 5 5 3/4
2	7	2 1/2 5 3/4
3	10	2 1/2 6
4	13	2 1/2 6 3/8
6	27 1/2	3 3/8 6 3/8



1/6 Bend

QUARTER BENDS

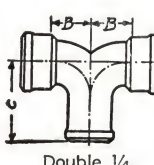
Size, in.	Wt., lb.	Dim., in.
		B C
1½	6	3 1/4 6 3/4
2	7	3 1/2 7
3	12	4 7 1/2
4	16	4 3/8 8
6	30	5 1/2 9
8	67	6 3/8 10



1/4 Bend

DOUBLE QUARTER BENDS

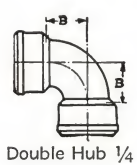
Size, in.	Wt., lb.	Dim., in.
		B + C
1½	11	6 1/2 6 3/4
2	12	7 7
3	17	8 7 1/2
4	25	9 8
6	40	11 9



Double 1/4

DOUBLE HUB QUARTER BENDS

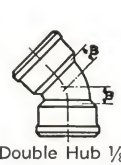
Size, in.	Wt., lb.	Dim., in.
		B
1½	8	3 1/4
2	9	3 1/2
3	16	4
4	19	4 1/2
6	39	5 1/2



Double Hub 1/4

DOUBLE HUB EIGHTH BENDS

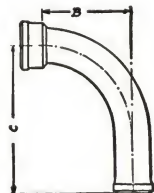
Size, in.	Wt., lb.	Dim., in.
		B
1½	6	1 5/8
2	7	1 3/4
3	13	2
4	17	2 1/4
6	34	2 1/2

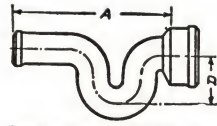


Double Hub 1/8

LONG SWEEP QUARTER BENDS

Size, in.	Wt., lb.	Dimensions, in.
		B C
1½	10	8 1/2 11 3/4
2	12	8 3/2 12
3	19	9 12 1/2
4	28	9 1/2 13
6	50	10 1/2 14

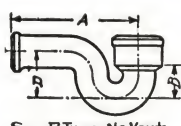




San. Running Trap-No Vent

RUNNING TRAP—NO VENT

Size, in.	Wt., lb.	Dim., in.	
		A	B
1½	9	12½	4
2	13	13½	4½
3	21	15½	5½
4	40	17½	6½
6	48	21½	8½
8	155	26½	11



San. P Trap-No Vent

P TRAP (½ S TRAP)—NO VENT

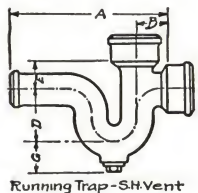
Size, in.	Wt., lb.	Dimensions, in.		
		A	B	D
1½	8	10¼	2¾	4
2	11	11	3	4½
3	19	12½	4¼	5½
4	27	14	5½	6½
6	67	17	8½	8½



San. S Trap-No Vent

S TRAP—NO VENT

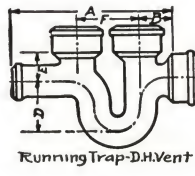
Size, in.	Wt., lb.	Dimensions, in.			
		A	B	C	D
1½	9	5½	2¾	7	4
2	14	5½	3	8	4½
3	22	6¼	4¼	10	5½
4	32	7	5½	12	6½
6	46	9	8½	16	8½



Running Trap-S.H.Vent

RUNNING TRAP—SINGLE HUB VENT (Showing Cleanout)

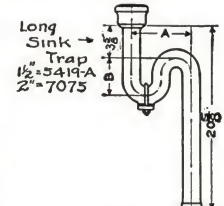
Size, in.	Wt., lb.	Vent, in.	Dimensions, in.					
			A	B	D	E	G	
1½	13	1½	12½	17½	4	17½	2¾	
2	17	2	13½	2½	4½	2½	3	
3	27	3	15½	3	5½	3¼	3½	
4	43	4	17½	3½	6½	3½	4	
6	60	4	21½	4½	8½	4¼	5	
8	187	6	26½	5½	11	4¼	6	



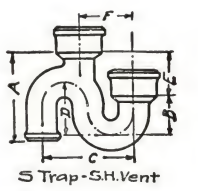
Running Trap-D.H.Vent

RUNNING TRAP—DOUBLE HUB VENT

Size, in.	Wt., lb.	Vent, in.	Dimensions, in.					
			A	B	D	E	F	
1½	16	1½	12½	17½	4	17½	4¾	
2	19	2	13½	2½	4½	2½	5¼	
3	32	3	15½	3	5½	3¼	6¼	
4	45	4	17½	3½	6½	3½	7¼	
6	88	4	21½	4½	8½	4¼	8¼	
8	208	6	26½	5½	11	4¼	12	



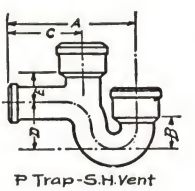
Long Sink Trap
1½-5419-A
2"-7075



S Trap-S.H.Vent

S TRAP—HUB VENT

Size, in.	Wt., lb.	Vent, in.	Dimensions, in.				
			A	B	C	E	F
1½	13	1½	8½	2¾	7	3¼	4½
2	16	2	9¼	3	8	3¾	4¾
3	28	3	10½	4¼	10	4¼	6¼
4	39	4	11¼	5½	12	4¼	7
6	57	4	14	8½	16	5	9



P Trap-S.H.Vent

P TRAP (½ S)—HUB VENT

Size, in.	Wt., lb.	Vent, in.	Dimensions, in.				
			A	B	C	D	E
1½	12	1½	10¼	2¾	6½	4	1½
2	15	2	11	3	6¼	4½	2¼
3	24	3	12½	4¼	6¼	5½	3
4	38	4	14	5½	7	6½	3¼
6	82	4	17	8½	8	8½	4

LONG SINK TRAPS

Plate No.	Size, in.	Dim., in.	
		A	B
5419-A	1½	6¾	4¼
7075	2	7¾	5

DRUM TRAPS

Plate No.	5872	5856	5872-A	5856-A	5498	6165
Size, in.	1½	2	1½	2	1½	2
Wt., lb.	16	22	14	20	27	31
Dimen- sions, in.	A 6½	B 7¾	C 12¼	D 13¾	E 11	F 11½
	B 4¼	C 5	D 4¼	E 5	F 2½	G 2¾
	D 4¼	E 4½	F 4½	G 4	H 4½	I 4½
	E 17½	F 2¼	G 17½	H 2¼	I 9½	J 10½
	G 3½	H 3¾	I 3½	J 3¾	K 2½	L 2½

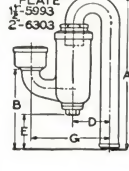


PLATE 5872
1½-5993
2"-6303

CENTRIFUGAL DRUM TRAPS (NON-SYPHON)

Plate No.	Size, in.	Wt., lb.	Dimensions, in.				
			A	B	D	E	G
5993	1½	23	16½	8½	4	3½	8½
5993-A	1½	29	24½	16½	4	11½	8½
6303	2	38	20½	13	5½	4	11
6303-A	2	44	28¼	21	5½	12	11

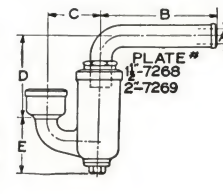


PLATE 7268
2"-7269

NON-SYPHON P TRAP

Plate No.	Size, in.	Wt., lb.	Dimensions, in.			
			A	B	C	D
7268	1½	18	8	4½	6¾	5¼
7269	2	28	8	5½	6	9

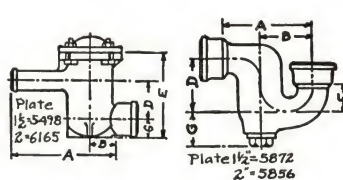


Plate 1½-5498
2"-6165

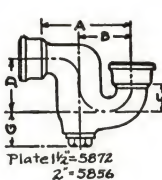


Plate 1½-5872
2"-5856

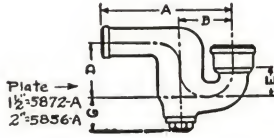


Plate 1½-5872-A
2"-5856-A

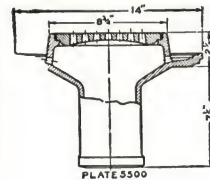


PLATE 5500

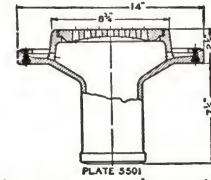


PLATE 5501

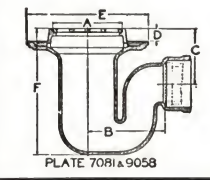


PLATE 7081-A

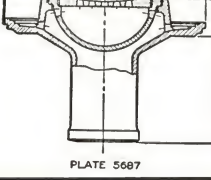


PLATE 5687

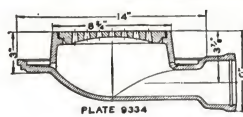


PLATE 9334

FLOOR DRAINS—DOUBLE DRAINAGE TYPE

Plate No.	Outlet size, in.	Wt., lb.	Dimensions, in.						Flashing ring
			A	B	C	D	E	F	
5500	2, 3, 4 or 6	40	...	...	...	...	...	...	No
5501	2, 3, 4 or 6	40	...	...	...	...	...	...	Yes
7081-A	1½	30	4	6½	3¾	1½	10½	9	No
7081-B	2	32	4	6½	3¾	1½	10½	9	No
9058-3	3	75	8	9	5½	1½	14	14½	No
9058-4	4	79	8	9	6½	1½	14	14½	No
5687	2, 3, 4 or 6	72	...	...	...	...	...	...	No
5687-A	2, 3, 4 or 6	75	...	...	...	...	...	...	Yes
9334	2	40	...	...	...	...	...	...	No

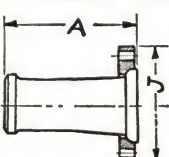
ADAPTER—BELL AND FLANGE

Size, in.	Wt., lb.	Dim. A, in.	Dim. J, in.
1½	7	2½	5
2	9	2½	6
3	14½	2½	7½
4	21	2¾	9
6	30	3	11
8	35	3½	13½

Note: Bolt dimensions U. S. 1914 Standard.

ADAPTER—SPIGOT AND SPLIT FLANGE

Size, in.	Wt., lb.	Dim. A, in.	Dim. J, in.
1½	6	5¼	5
2	9	5¾	6
3	16	7	7½
4	24	8	9
6	32	9¼	11
8	45	10¾	13½



SANITARY REDUCERS

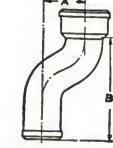
Size, in.	Wt., lb.	A, in.	Size, in.	Wt., lb.	A, in.
2x1½	5	5	6x2	12	5
3x1½	6	5	6x3	13	5
3x2	7	5	6x4	14	5
4x1½	7	5	6x5	18	5
4x2	8	5	8x4	27	6
4x3	9	5	8x6	29	6
5x4	12	5			

SANITARY INCREASERS

Size, in.	Wt., lb.	A, in.	Size, in.	Wt., lb.	A, in.
1½x2	7	9	3x6	16	9
1½x4	8½	9	4x5	16	9
1½x4	10½	9	4x6	17½	9
2x3	9	9	4x8	43	11½
2x4	11	9	5x6	18	9
2x6	15	9	6x8	50	11½
3x4	13	9			

SANITARY OFFSETS

Size, in.	Dimensions, in.		Wt., lb.
	A	B	
1½	2	8½	7½
1½	4	8½	9½
1½	6	9½	10½
1½	8	9½	11½
1½	10	10½	12½
1½	12	10½	13½
2	2	8	8
2	4	8½	9½
2	6	9	11
2	8	9½	14
2	10	10	15
2	12	10½	16
3	2	8½	12
3	4	9½	13
3	6	10	15
3	8	10½	16½
3	10	11	18
3	12	11½	19½



Size, in.	Dimensions, in.		Wt., lb.
	A	B	
2	2	9	19½
2	4	11	23
2	6	11	26
2	8	11½	29
2	10	12	34½
2	12	12½	37½
3	2	10	33
3	4	12	38½
3	6	13	44
3	8	13½	48
3	10	14	52
3	12	14½	55

TRAPS (See also page 10)
(Furnished with or without bottom cleanouts)

DRAINS

MISCELLANEOUS

DURIRON TRAPS • OVERFLOWS • STRAINERS

DURIRON Can't Pull Anti-Syphon Trap

The Duriron Can't Pull Anti-Syphon Trap is produced and sold under license agreement with the Buffalo Wash Tray Works, Inc., Buffalo, N. Y. The trap is simple in operation and retains a perfect water seal under all conditions of service. Vent connections are not needed to prevent syphoning.

The Duriron Can't Pull Anti-Syphon Trap is acid-proof; anti-syphon; perfect sealing; non-clogging; easily installed. In sizes 1½" and 2". Made in all Duriron Company alloys.

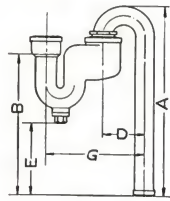
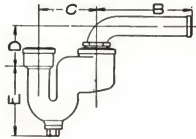
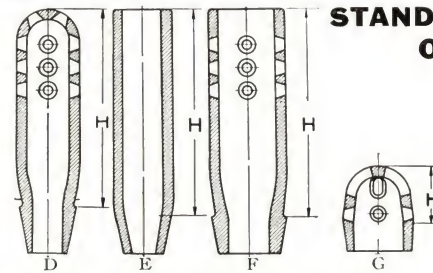


Plate No.	Size	Wt. Lbs.	Dimensions, in Inches						
			A	B	C	D	E	G	
3751-S	1½	26	16¾	10¾	...	4	3¼	10¾	
3751-SA	1½	28	24½	18¾	...	4	11¾	10¾	
3480-S	2	39	20½	13¼	...	5½	4½	13	
3480-SA	2	42	28½	21¼	...	5½	12½	13	
3751-P	1½	22	...	8	6¾	4¾	7	...	
3480-P	2	32	...	8	7½	5¾	8¾	...	

STANDING OVERFLOWS



Style	Size, in.	Plate No.	H, in.	Type
D	1½-2	5692	4¾	Beehive
D	1½-2	5692-A	9¼	Beehive
D	1	8210	4¾	Beehive
D	1½-2	7189-B	9½	Beehive
D	1½-2	7189-C	4	Beehive
D	1½-2	7189-D	6	Beehive
D	1½-2	7189-E	8	Beehive
E	1	7796*	9 max.	Open end
E	1½-2	5962	9 max.	Open end
F	1½-2	7032	8½	Open end
G	1	8888	1½	Beehive
G	1½-2	7365	1¾	Beehive

No standing overflows can be furnished for strainers Nos. 5733, 8608, 8711, 8730, 9662.

*Not kept in stock. Shipment one week.

DURIRON SINK STRAINERS

SELECTION DRAWINGS

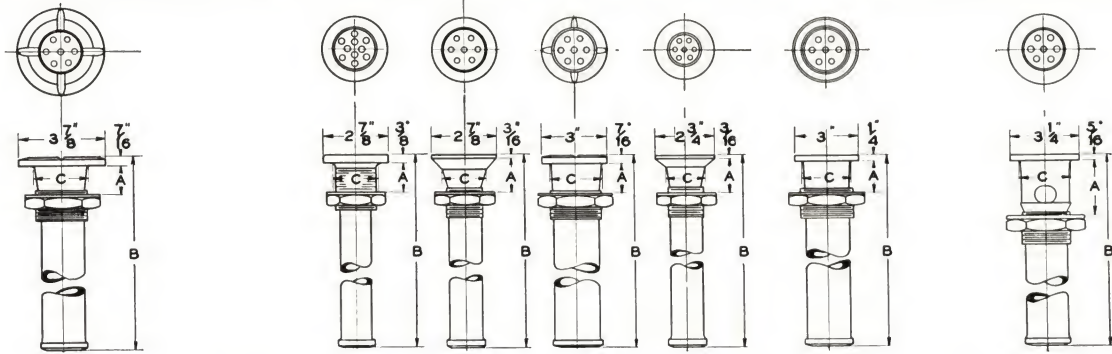


Plate No.	5588	7113	7188	1348	341†	5773	6985	7334	7424	7594	9984†	8121*	9740†*
Size, ins.	1½, 2	1½, 2	1½, 2	1	1	1	1	1½, 2	1	1½, 2	1	1½, 2	1½, 2
A	1 to 2	1 to 2¼	1 to 2	¾ to 1¾	1 to 2	¼ to 1¾	1 to 2¼	1 to 2	½ to 1½	1 to 2	¼ to 1	2 to 3¼	½ to 2
B	10	13	4¾	11¼	13	8¾	10	10	10	10	10	10	10
C	2½	2½	2½	2	2¾	2½	2¼	2½	1¾	2½	1¾	2½	2¾

SELECTION DRAWINGS

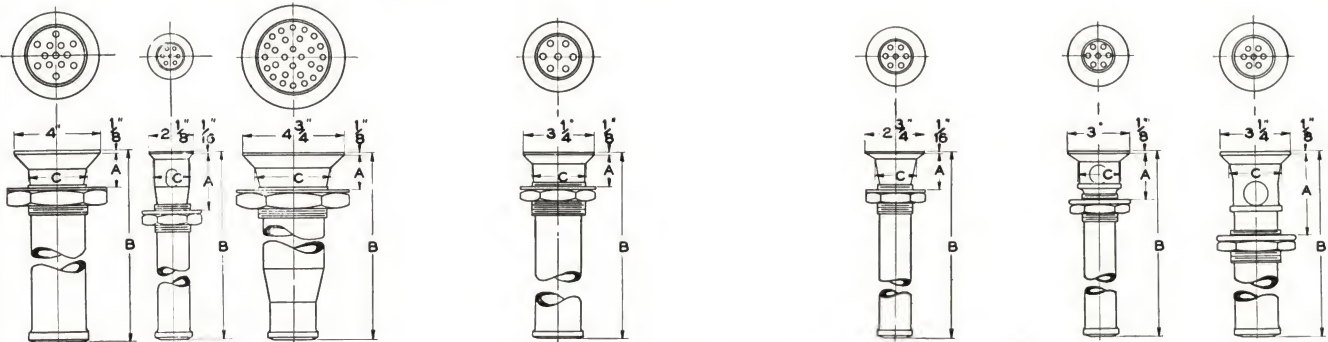
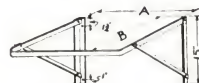
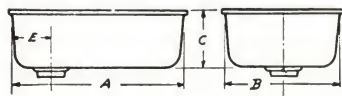


Plate No.	8608	8711*	8730	8909	565†	1055†	9318	2602	9662*	9387†*
Size, ins.	2	1	1½	1½, 2	1½, 2	1½, 2	1	1½, 2	1	1½, 2
A	1 to 1¾	2 to 2¾	1¼ to 2¼	1 to 2	1 to 1½	½ to 1¼	¼ to 1¾	½ to 1¼	1¼ to 2¼	2¾ to 4¼
B	5¼	10	7	10	10	12½	10	10	10	10
C	3	1¾	3¾	2½	2½	2½	2	2½	2	2½

Furnished with flat loose strainers.
Nos. 5733, 8608, 8711, 8730 and 9662 are not ground for Duriron stoppers or overflows.
†Not kept in stock. Shipment one week. *For sink with patent overflow.

LABORATORY SINKS AND BRACKETS

FLAT RIM SINKS



STEEL BRACKETS

Plate No.	Wt., lb.	Dimensions, in.			
		A	B	C	E
5851	72	16	14	8	5 3/8
5852	103	24	16	8	5 1/16
5853	120	28	16	8	5 7/16
5964	73	17	9	10	8 1/2
7924*	58	14	10 1/2	9	5 3/8
7925*	68	16	12	9	5 3/8
8142*	45	15 1/4	7 1/4	7 1/2	7 5/8

*Not carried in stock.

Size	To fit sink No.	Dim., in.	
		A	B
1	5851	16 1/8	14 5/8
2	5852	24 1/8	16 5/8
3	5853	28 1/8	16 5/8
4	5964	17 1/8	9 5/8

HEMISPHERICAL SINKS

Duriron Hemispherical Sinks are used in fume hoods and tops of tables.

When set in a hood, one bowl should be placed in each compartment, recessed so that the top of the sink rim is slightly below the working surface.

A drainage groove should be provided in the floor of the hood, sloping to the sink across the rear of the hood.

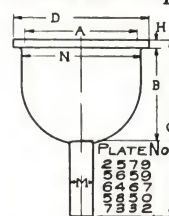
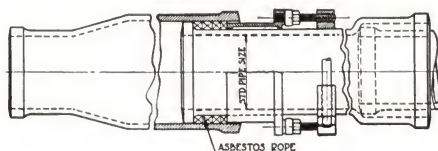


Plate No.	Size (i.d.) outlet in.	Dimensions, in.					
		A	B	C	D	H	M
2579	1½	3	3⅞	12	4¼	3⅝	2
5649	1½	5	5	11	6¼	3⅝	2
6467	1½	6	6	12	7¼	1⅞	2¼
5850—1½	1½	8	4½	10¼	9½	1½	2¼
5850—2	2	8	4½	10½	9½	1½	2¼
7332—1½	1½	12	6	12	13½	5⅝	2¼
7332—2	2	12	6	12	13½	5⅝	2¼

DURIRON EXPANSION JOINTS

When drainage systems are subject to unusual variations in temperature, special provision must be made for expansion.



Duriron Expansion Joint

The Duriron expansion joint is the same length as a full piece of corresponding pipe so that it may be installed without difficulty. Made in 3", 4", and 6" sizes. These sizes are carried in stock; other sizes made to order when required.

Care must be taken to provide suitable anchors for the pipe line at points midway between expansion joints. In extreme cases it may also be necessary to provide locking clamps at all pipe joints. Our experience on this point is available without any obligation.

DURIRON ROPE ASBESTOS PACKING

Duriron asbestos packing is made from commercially pure asbestos treated with special materials to make it most desirable for acid service. Pure asbestos rope should always be specified instead of hemp or oakum which are not acid proof.

In packing a joint, the packing should be separated into two or three strands, laid in so that the ends will overlap, and tightly rammed.

The amounts of packing given here fill up the bell or hub from 1 1/2" to 1 3/4" from the top. The rest of the space is used for the molten lead.

DURIRON ROPE ASBESTOS PACKING

Pipe size, in.	1 1/2	2	3	4	6	8
Weight per joint, lb.	0.14	0.16	0.22	0.26	0.35	0.44
Length, in.	10	12	16	19	26	33

Note: 100 ft. (1200 in.) of this packing weighs 16 lb.

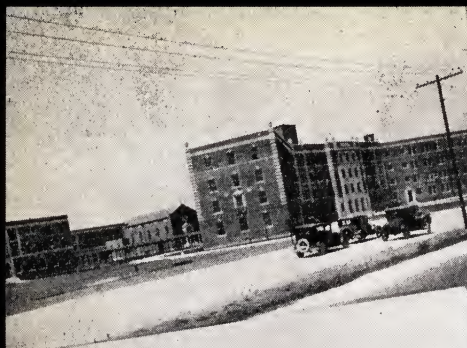
OTHER LABORATORY EQUIPMENT

Many educational and hospital laboratories have occasion to perform protein, nitrogen or ammonia determinations by the Kjeldahl digestion process. For this purpose, there is available a complete Duriron digestion unit which does not require the use of a hood. Send for Bulletin No. 160 for detailed data.

Large laboratories often find it desirable to provide a container for the acid cleaning of glassware. Duriron

jacketed kettles, heated by steam or hot water, are available in two standard sizes, 13 gal. and 35 gal. Send for Bulletin No. 169.

For commercial laboratories, the Duriron No. 2A Centrifugal Pump is a convenient size. It has a capacity range from 2 1/2 g.p.m. against a 25 ft. head to 25 g.p.m. against a 5 ft. head, with a 1/4 h.p. motor. Bulletin 169 contains complete data.



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